



# Dynamics of manufacturing productivity: lesson learnt from labor intensive industries

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## Abstract

**Purpose** – This study is designed to examine the impact of favorable working environment (FWE) and R&D on manufacturing productivity of labor intensive industries. More specifically, the purpose of this study is to generate quantitative evidence of the effect of FWE and R&D-based manufacturing process on outputs and productivity.

**Design/methodology/approach** – Convenience sampling method has been used to conduct this study. This method provides the opportunity for selecting those manufacturing industries that are convenient to get access for collecting relevant information. Three categories of labor intensive manufacturing industries such as category A, B and C have been chosen to perform this research. Industrial category A represents the manufacturing operations which are based on skill of labor. Category B is a group of industries which provides the FWE the ability to utilize the potential of skill in the manufacturing process. However, category C is a specialized group of industries and its manufacturing process is dependent on R&D. The operating data of inputs cost and the revenue of corresponding outputs have been gathered from audited documents of the relevant sample industries and the data have been analyzed by using standard statistical techniques in order to establish the relationship between dependent and independent variables.

**Findings** – It is found that the industrial category B has spent about 1 percent of revenue on FWE and gained 9.5 percent higher productivity compare to industrial category A. However, the result has shown that the expenditure on FWE is positively associated with productivity ( $r < 0.5$ ). Whereas, the study has revealed that industrial category C has spent about 1.5 percent of revenue on R&D activities for improving manufacturing process and gained 20 higher productivity compare to industrial category A. Nevertheless, the expenditure on R&D is strongly correlated with productivity ( $r > 0.7$ ). The study concludes that FWE as proxy of job satisfaction of workforce and R&D on manufacturing process are value-added inputs for labor intensive industries and it is positively associated with manufacturing productivity.

**Originality/value** – This paper presents three original case studies on labor intensive manufacturing industries. This study has addressed an important issue of labor intensive manufacturing industries and generated quantitative evidence of the impact of FWE and R&D activities on productivity. These issues have been well researched in developed and many developing countries in capital-intensive industries, but no dedicated study is available that has addressed this issue from the perspective of the highly labor intensive industries such as the garment industry. The findings of this research would enrich the present knowledge stock of manufacturing systems. Eventually, the findings would be the basis for further research on manufacturing process for enhancing performance. Based on this concept, this study would be valuable to policy makers, academics and government agencies.

**Keywords** Manufacturing systems, Productivity capacity, Working conditions, Research and development, Skills

**Paper type** Research paper

